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BETTER FRUIT

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U. S. Department of Agriculture

SPECIAL FEATURES

FEATURES OF THE
TENTH NATIONAL APPLE SHOW
SPOKANE, NOVEMBER 19-24
1917

FRUIT-BUD FORMATION

GOVERNMENT ESTIMATES OF
THE APPLE CROP

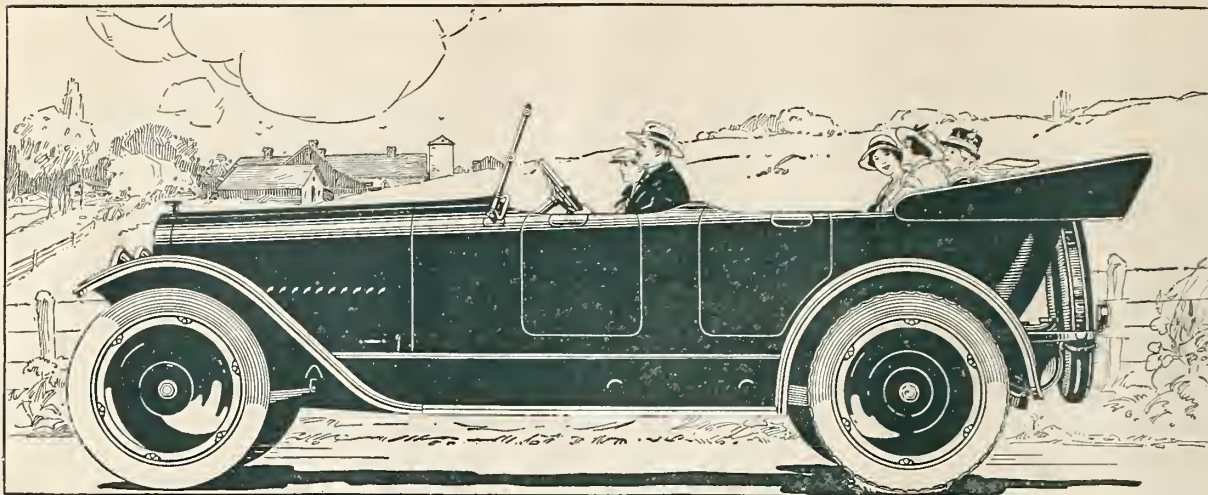
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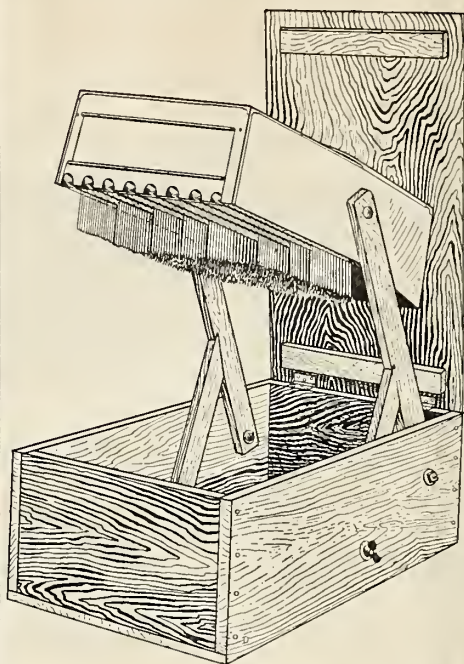
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BETTER FRUIT

AN ILLUSTRATED MAGAZINE PUBLISHED MONTHLY IN THE INTEREST OF MODERN, PROGRESSIVE FRUIT GROWING AND MARKETING

Food Administration and Fruit and Vegetable Industry

Address by G. Harold Powell at Twenty-third Annual Convention of the International Apple Shippers' Association, New York, August 16, 1917

IT is a pleasure to meet the members of the International Apple Shippers' Association as a representative of the United States Food Administration, to discuss some of the questions that confront the apple industry as a result of the war and to establish a relationship of mutual confidence between the Food Administration and this organization.

The Food Problem of America.

The food problem of America is to send our Allies more foods of the most concentrated nutritive value in the smallest shipping space. These foods are wheat, beef, pork, dairy products and sugar. The solution is to eat less of these exportable foods, to substitute other foods, particularly the perishables, and to waste less food of all kinds.

The food supplies of our Allies have been greatly reduced because the farmers are fighting at the front. Before the war, the food production of the Allies was not equal to their consumption. They secured their surplus requirements from America, Russia, Roumania, South America, India, Australia and other countries. Now they can no longer obtain their food from most of the outside countries. There is a shortage in man power, in transportation, and there are other difficulties which they cannot surmount. Our Allies, therefore, ask America to supply them with the necessities of life that they may live and fight the battle—our battle, as well as their own,—for liberty and for democracy.

America will of course supply the Allies with food, but it can be done only by the co-operative, patriotic effort of every individual and every industry by producing abundantly, by handling food products wisely, by reducing the economic wastes in distribution, by simplifying the distributing machinery, by selling at reasonable prices without excessive distribution profits and by practicing economy and efficient management in the use and handling of food supplies.

America must increase her normal exports of wheat from 88,000,000 to 220,000,000 bushels if the Allies are to be properly fed. It can be done by reducing the use of wheat one pound per person per week and by the substitution of other foods.

The food animals of the Allies have decreased 33,000,000 head since the war began. The needs of the Allied soldiers have increased the meat consumption abroad. The United States has already tripled the meat exports

to the Allies since the beginning of the war. With an increase in the demand for meat and a decrease in the source of supply abroad, our exports must be greatly increased. If we will save one ounce of meat per person per day, the Allies can have what they need.

There is a steady falling off in the dairy products of our Allies because of the loss in cattle and the increased cost of feed. Our exports last year reached three times as much butter and ten times as much condensed milk as we sent before the war. These exports must be still further increased if the Allies are to be adequately supplied.

The Allies will need 2,000,000 pounds more of sugar than they imported before the war. The supply must be drawn from the same source as our own supply. This can be done only by individual economy. Our present consumption of sugar per person is twice that of France.

In meeting the war food problem, the Food Administration approaches the business interests of America in a

spirit of co-operation, and with a confidence that when the problem is clearly defined the industries will act quickly and directly in reaching the solution. But there are no miracles in prospect in the handling of perishable products. Taken in the large, we are dealing with millions of farmers most of whom are unorganized; with at least three hundred and fifty thousand wholesale and retail distributors who as a whole are equally unorganized; with the habits of twenty million families whose individualism is not less pronounced than that of the producer himself; with systems of transportation and of terminal distribution; with business methods and with buying and consuming habits that have grown up through generations of gradual evolution. Yet we are confident that from national necessity the evolution in the methods of handling the nation's food will quickly effect a saving in food supplies and develop a more direct method of distribution at a lower cost to the producer and consumer. Through the co-operation of the pro-

Continued on page 21

WOODROW WILSON

President of the United States

SAYS

TO THE MEN WHO RUN THE RAILWAYS OF THE COUNTRY—THE railways are the arteries of the nation's life and that upon them rests the immense responsibility of seeing to it that these arteries suffer no obstruction of any kind.

THE GREATEST SINGLE OBSTRUCTION TO THE PROMPT handling of freight today is the shortage of cars.

IT IS NOT POSSIBLE TO BUILD NEW CARS IN TIME TO relieve the situation.

THERE IS NO OTHER MEANS BY WHICH THE CAPACITY of the railways can be so economically and efficiently increased as by increasing the load per car.

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NO CAR IS LOADED UNLESS AND UNTIL FILLED TO FULL visible capacity, or to 10 per cent above marked weight-carrying capacity.

A CAR LOADED TO FULL (10 PER CENT ABOVE MARKED) capacity can be moved just as fast as an under-loaded car and does not take up any more yard or sidetrack room.

That's 110 per cent efficiency!

AN INCREASE OF ONLY TWO TONS PER LOADED CAR WOULD be the same as adding 200,000 new cars to the supply available for public use.

HEAVIER CAR LOADING WILL ELIMINATE THE CAR SHORT-AGE OF THE NATION.

JUST A LITTLE THOUGHT AND QUICK ACTION IS ALL THAT IS NECESSARY.

HOW CAN YOU AFFORD NOT TO "DO YOUR BIT"?

The Fruit-Bud Formation Related to Orchard Practice

Address Delivered by E. J. Kruse at Twelfth Annual Meeting of Washington State Horticultural Association, Spokane, Wash., November 15, 1915

IT is intended in this talk to deal with some of the possible methods for the modification of fruit production, especially a few of the many pruning practices in use, since they are generally and widely discussed, and viewpoints differ greatly. It is to be understood from the outset, however, that any practice is a means to an end and not an end in itself. As soon as the fruit grower recognizes this he is in a way to make substantial progress in his work and not until then. It makes absolutely no difference what system or systems of orchard practices may be employed, nor can any one system be universally recommended as best; the power of control of the fruit bud or fruit spur system rests not upon a mere code of pruning or cultivation ideas, but upon principles and laws influenced by every practice. Since this is so one should be ready to adopt whatever of good there may be in any set of rules and discard that which is not acceptable. Orchard practices must be supplemented one by another. It is only by a rational combination of pruning, cultivation, fertilization, irrigation, cover-cropping, inter-cropping, or any other operation which has to deal with the change or modification of the functions of the tree, that ideal fruiting conditions can be maintained. To determine the exact adjustment of orchard practices each man, to a large degree, must conduct his own experiments and determine not only what is best for his orchard as a whole but for each tree individually. The surest way to judge the needs of a tree is to carefully check over the treatment given it during the past and note the response. Having done this, modify the practice to conform to requirements. It may be an increase or decrease in cultivation to suppress or encourage growth; the application of manures or fertilizers, irrigation, or the combination of these and other agencies rather than a radical change solely in the pruning or any other one practice. Fruit-bud formation is directly induced and the buds are dependent upon the conditions existing within the tree, and not by any system that may be hotly agitated today and abandoned tomorrow.

In the past argument has waged around the ideal tree form but all are coming to realize more and more that tree-form is less essential than tree performance. It is folly to say that any one form is best; it may be best under certain circumstances, but certainly not universally so. Whatever the shape chosen, however, under all circumstances it must be compatible with the basic idea of production, and in discussing production one is at once lead into a discussion of the fruit-producing machinery, the fruit-bud system.

That misunderstanding may be avoided later, the several classes of fruit buds are mentioned. Those of perhaps most general occurrence and certainly the most widely discussed are those borne on fruit spurs. Now a fruit spur may be either simple or compound, depending on whether it bears a single terminal bud, as is the case when very young, or many buds, as is often true when several years old. The second most frequently occurring class of buds is the axillaries. They are borne on current-year wood in the axils or angles of the leaves and always close to the branch from which they arise. In apples it is often very difficult to tell them from the axillary leaf buds, in pears they are usually readily distinguishable by their large size and plumpness. This class of buds merits more attention than it has received in the past, though they are of rare occurrence in certain varieties, in others they are extremely abundant, and it is often from them that the major portion of fruit is produced on

young, vigorous trees. The third class embraces the terminals, so-called because they are borne at the tips or terminals of shoots or branches. Of course it is realized that in the case of fruit spurs the fruit buds are really terminal in position, but in the class now under consideration the shoots and branches are of considerable length, longer than would generally be considered a spur growth. In Ben Davis, for example, the spurs bearing a fruit may produce one to three very long laterals which in turn produce a fruit bud at the tip. If these laterals are very long the fruit bud would be considered "terminal"; if shorter, it would be regarded as forming part of a very loose, open spur. Actually, the difference is rather one of degree than of kind.

The relation of each class of buds to the productivity of any particular variety is of greatest importance. All varieties of apples and pears produce fruit spurs, and after the tree comes to full bearing age the greater portion



of fruit is generally borne on them. The trees should be so managed, therefore, that the spurs are well distributed throughout the entire tree, and afforded the best condition for producing prime fruit. On the other hand, many varieties while young, particularly those that come into bearing at any early age, produce a very large proportion of the first few crops from terminals and axillaries. For such varieties a method of pruning which will tend to conserve and encourage as many as possible of these fruit buds should be adopted. As the trees grow older, and fruit spurs are developed and an increasingly greater proportion of the fruit is so borne, the method of pruning should be modified in such a way as to encourage more fruit spurs, to maintain those present in good condition and also to provide some new shoots bearing axillary and terminal buds. Of course it is realized that some growers are confronted with the tendency of their trees to over bear, to produce fruit at the expense of shoot production. Such a state of affairs is really an exception to conditions generally encountered and special practices, largely cultural rather than pruning, would have to be employed for handling such trees. It is a more difficult task to counteract the habit to over bear due to peculiarly local environment than to manage the average trees which fail to bear, unless circumstances are extremely unusual.

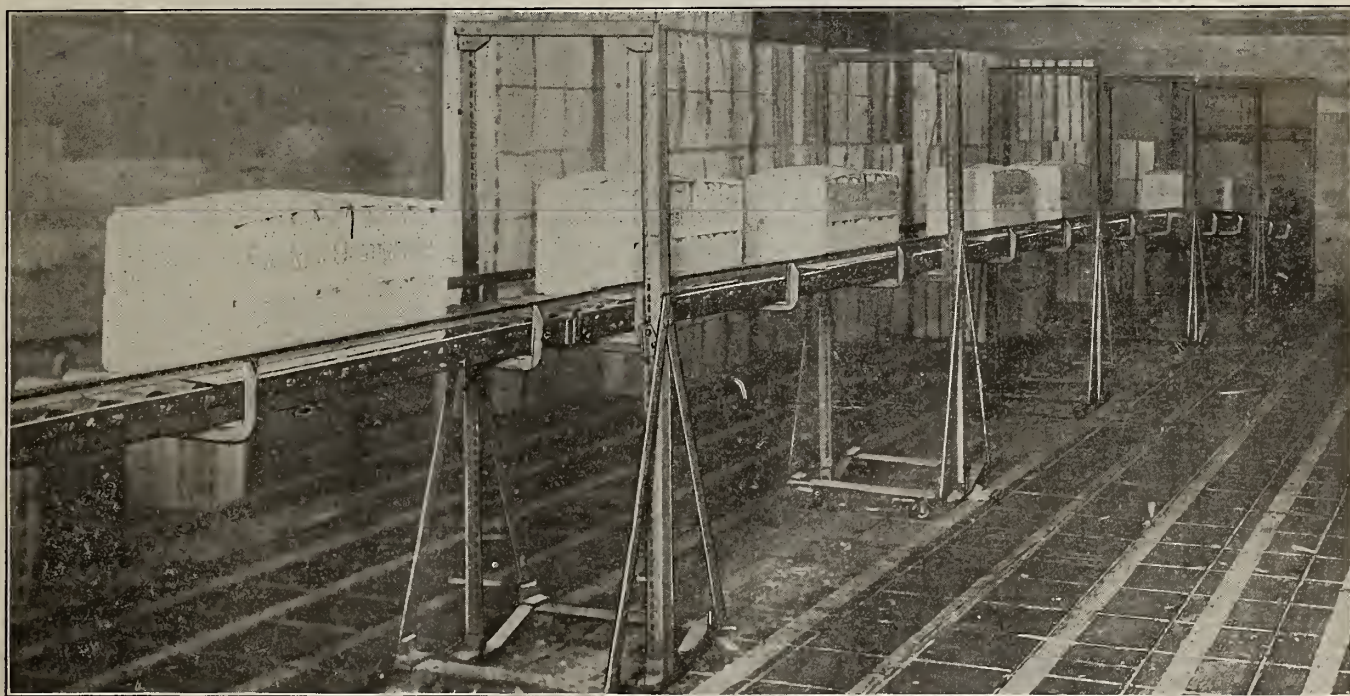
Briefly then, determine the type of production of the variety as limited by the conditions under consideration and adopt such methods as best apply

to it. One of the first pruning principles to be learned is the difference in effect of heading back and thinning out the top. It may be regarded as virtually a universal rule that under like conditions a liberal heading back tends to produce vegetative shoots and thicken the top at the expense of fruit bud formation, both because of excessive vegetative stimulation and a shading out due to an increased size and number of branches, while thinning out with no heading back means a generous number of fruit buds, a lessened vegetative response and a possible sacrifice of tree form. It would be easy to take a hypothetical case and compute the number of shoots and fruit buds resulting from the two methods of pruning, but it is sufficient to say that the result would substantiate the foregoing statement. Knowing the effects of these two practices, the successful grower will combine the two for best success. In other words, neither method is the better, except that when trees have been neglected or pruned wholly according to one system or the other, as many orchards have been, it is frequently an advantage to completely reverse the method for a year or two and thereafter follow both.

The fruit grower is frequently confronted with the condition, where apparently, either he must sacrifice form or fruit production, as for example young trees which have set a number of fruit buds towards the tips of long branches, or which probably would develop fruit buds on branches left uncut. It will be found that instead of treating all branches on the trees

alike and pruning to the best possible form, judged from the standpoint of beauty only, the tree would be more profitable and of exactly as good form eventually if some of the supernumerary branches were not removed and either headed back very lightly or not at all; this to be done during the winter. It is the general experience that such uncut branches will go into the fruiting condition, especially if well exposed to light and air, sooner than those cut heavily. They may be removed later when the remainder of the tree begins to fruit. The advantages of such a system are at least twofold: first, the fruit which is harvested from the branches and second, the tree as a whole receives a lighter pruning and goes into the fruiting condition more quickly than if severe pruning is continued. Its disadvantages lie mostly in the fact that the pruner has difficulty in keeping the final form of his tree in mind unless entirely cut over; that the tree may be a bit unsightly; that there is a tendency to allow the tree to become too thick, and a hesitancy to remove the unpruned branches after the tree as a whole has come into bearing. The practice is better adapted to slender or open growing varieties such as Spitzenburg, Ortley, or Jonathan, than to the denser growing varieties as Newtown or Arkansas Black. It is worthy of trial on pears, but due to the very upright tendency of some varieties, it might be difficult to manage them.

Another way of inducing and maintaining a good fruit spur system is through summer pruning. There are



A view of the portable carrier in the precooling rooms. You will note that the carrier is handling packed boxes of oranges traveling in the direction of cars for shipment. The temperature in this room is 38°.

Gravity carrier systems have been used extensively throughout the East by large manufacturers for handling packages, and also by the citrus fruit growers of California. On account of the efficiency and economy in the use of the system it is going to be a great saving to all of the large apple packing houses in the Northwest, as well as all of the shipping concerns. Every concern handling box apples in quantity should investigate the carrier system if they want to do their business more economically and more efficiently.

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many methods, all of which have their supporters; only a few will be taken up. It is now five years since the Oregon Experiment Station tried the first experiment on what may be called early summer pruning and first recommended it for limited trial pending its success. Personally, I believe this idea can be recommended with confidence for use on young vigorous trees and those just coming into bearing. Briefly, the method is as follows: When the new growth has attained a length several inches more than the branch would be left after a winter pruning of it at the end of the season, cut it back into wood which is firm and on which the leaves are as far apart as they would be at full maturity. Usually this means the removal of several inches to a foot or even more of growth. Generally such a pruning will come from the fore part of June to the fore part of July, depending on locality. The effect of such cutting back varies according to variety and vegetative vigor of the tree. To be successful it is expected that two or three buds on each branch will break and form shoots from six to possible some thirty inches long by fall, while below these there will probably be several shorter shoots or spurs pushed out. In other words, instead

of having one very long shoot by fall, it will be in much the same condition so far as branching is concerned, as it would have been the year following. This early summer pruning then is similar to and takes the place of a winter pruning. In a sense two years have been combined into one. Of course such a statement is comparative, the result is not exactly the same.

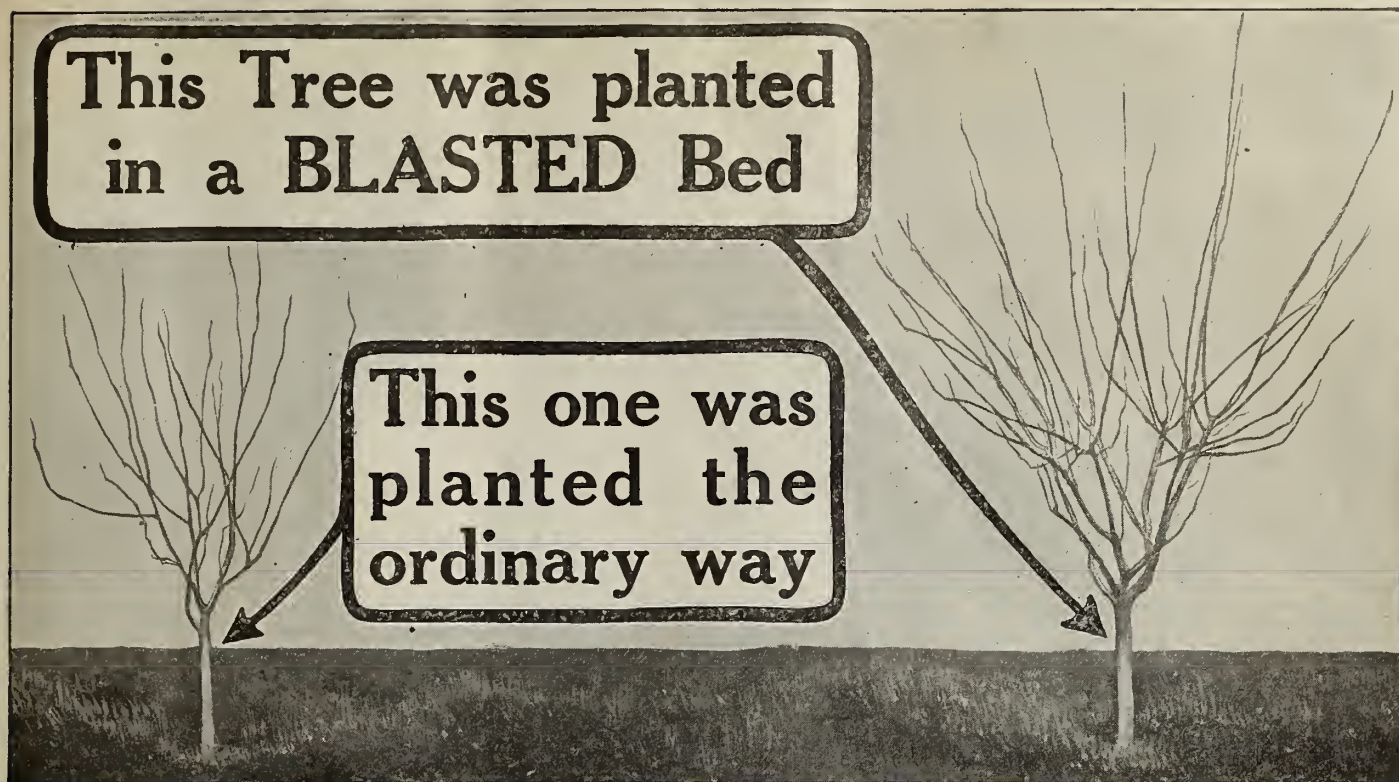
During the winter following such a pruning, the secondary shoots which have pushed out should be headed back, if long, to the desired length, and a liberal thinning given, while if but a few inches of secondary growth have been the result, either do not prune at all except for thinning out or merely tip back the terminals. This tipping back is unnecessary in the case of varieties which normally break several buds but should not be neglected with those, such as Spitzenburg, Ortle, and Spy, which tend to break at the terminals only and produce long, slender, willowy shoots. It may prove advisable to do such second tipping in the fall just as length growth is ceasing, but on this point data are now lacking.

What are the results of such pruning? There are advantages and disadvantages, the former seemingly overbalancing the latter. In the first place,

as just pointed out, virtually two years so far as form building is concerned, are combined into one; excessive heavy winter pruning is avoided; it is possible to correct, to a very large degree, the willowy spreading habit of many trees; the shorter stock branches resist the effect of the wind to greater advantage, there is no production of "crow nests" which often result from pinching; and of greatest importance, there is a more advantageous placing and probably an increase of fruit buds. This latter result is brought about in two ways. First there may be and often is a development of fruit buds on the lower part of the pruned shoot during the summer that the pruning is done, and even more likely so during the summer following when this part of the shoot functions as if it were a year older than it actually is. And second, in the case of many of those varieties that tend to produce axillary buds far out toward the terminus and which would be removed, therefore, by the ordinary winter pruning, may be retained since they may have been induced to develop below the summer cut or develop as axillaries and terminals on the secondary shoots, the shorter of which require no winter pruning.

The method is also successful with pears. I have in mind a number of young pear trees on which virtually the only immediate response from such a summer pruning was the pushing out of the axillary buds a short way and then producing fruit buds, and a number of older pear trees, which the owner tells me still show a beneficial effect in fruit production from such an experimental pruning given several years ago. The method is recommended also for use on trees that have been top worked, and are making a vigorous growth. For by it considerable time may be saved in shaping the new top and again bringing it into bearing.

The disadvantages urged against it are that the secondary branches are apt to be weak and form a poor angle or crotch, that the tree becomes too dense and twiggy, and that the process is devitalizing. No one or all of these suggestions is sufficiently serious to discourage the recommendation of early summer pruning, as a general practice. It is true that on some varieties the crotches the first year are not so desirable as are those resulting from winter pruning, but this effect disappears in a year or two and neither crotch nor branch can be distinguished from any other except that there are more fruit buds or spurs present. The question of density is easily regulated by thinning out either during the summer or winter and in this connection attention is again directed to the relative merits of heading back and thinning out. It certainly remains to be proven that the system as recommended is devitalizing. It is true that excessive summer pruning can be made a detrimental practice, but there are many and sun-



Herman H. Smidt, R. F. D. 3, Oregon City, Oregon, owner of these trees, read in *Better Fruit* that trees planted in blasted soil would grow faster and be better in every way than trees set in dug holes. He tried it, and on February 14, 1916, wrote as follows:

"I intended to blast the whole orchard but ran out of powder and finished a small balance without it. I am glad of this now because it has enabled me to compare the growth of the trees and satisfy myself that the expense was justified.

"My orchard was planted three years ago and all trees were selected and of even age and size. The trees that were planted in blasted ground show a growth of 75 to 100 per cent. over the trees in ground not blasted. They are healthier and more satisfactory in every way, and I have no hesitation in recommending

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"Thank you for getting the three boxes of Giant Powder for me so quickly."

Hundreds of fruit growers have found, like Mr. Smidt, that trees set in blasted beds grow faster and larger and bear earlier than trees set the ordinary way.

These men have found also that the Giant Farm Powders—Eureka Stumping or Giant Stumping—are the proper explosives to use in tree planting. They pulverize the soil for several feet in every direction, instead of caking and packing it. When you use the Giant Farm Powders you save money and get better results.

Be sure your dealer supplies you with the *genuine* Giant Powders, made especially for Pacific Coast conditions. If your dealer has only ordinary dynamites, we will see that you are supplied with the *real* Giant Powders.

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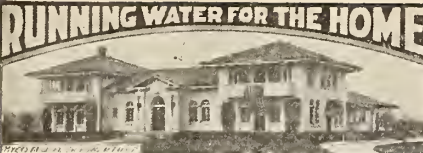
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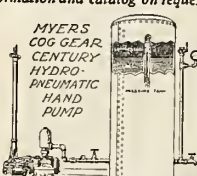
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ter pruning, that it admits light and air to the interior of the tree, resulting in an increased number of fruit buds, that it is an easy method of shaping the tree since it is in full leaf and its form is definite, that it tends to make the remaining branches more stocky, and that it serves as a check to excessive vegetative vigor. There are some grains of fact and truth in the claims and there can be no question that trees rationally handled according to this method show sufficient advantages over those not so treated that the practice may be recommended. Again variety bearing habit, whether on axillaries or spurs, must be taken into consideration and while one may be benefited to a great degree, another may fail to respond favorably. On the other hand, observation shows that it is easily possible to carry this practice to an excess, and make it a seriously devitalizing process. Perhaps all have seen young trees that have been heavily thinned several times during the season, or even for several successive seasons. Usually they appear more compressed and upright, the branches and scaffolds small in diameter and with peculiar narrow angles and crotches. The whole impression of the tree is one of lack of vigor when compared with unpruned trees. There is nothing to commend such excessive thinning. To admit light to the interior of the tree and thereby aid in the developing and strengthening of the fruit buds is good sense, to carry the idea to an extreme is not.

Concerning the value of the second widely practiced method of summer pruning, topping back in late summer, little can be said from direct observation of a wide series of trials. Several advantages are claimed; namely, that it aids in the elimination of heavy winter pruning, that the branches so pinched increase in diameter proportionally greater than those unpruned, that it induces fruitfulness at an earlier age. These claims are in part substantiated by the meager information at hand. There are several disadvantages. In the first place if slight cutting or light pinching is done near the tip of the shoot, say in August before growth ceases, either small branches are pushed out so close together that they form "crow's nests," or the shoot is left very long; both of which conditions must be corrected by the regular winter pruning to avoid a poorly formed tree. If, as often recommended, the pruning of vigorous shoots is delayed until the terminal bud is set, then new difficulties arise; first, if the pruning is heavy new growth is induced which is very weak and is apt to be winter injured, or second, if the cutting is light, virtually no response is obtained and the usual winter pruning must be given to preserve desirable form. There is an increase in the diameter of the shoot, often accompanied by an increase of tissue about the buds. In some instances apparently there has been an increase of fruit buds, a condition largely explainable as an indirect ef-

Standard Sprays of the World



fect of summer pruning, in that the winter pruning in such instances is usually a thinning out rather than a heading back. Without further data, however, it is not safe to conclude that there is no direct effect on the buds, perhaps through an added storage of food materials in the shoots themselves, indicated by increased diameter and swelling about the buds. In any case such late summer pruning or pinching does not show a direct effect the following spring or summer insofar as fruiting is concerned, but rather the second season thereafter. That is to say, if the pruning were done in August or September, 1915, its effects, if any, in actual fruit or blossom production would be apparent in 1917 or 1918, rather than 1916, since during the summer of 1916 the influence of the 1915 pruning would be brought to bear in the production of fruit buds. It is equally possible that there would be little or no noticeable effect of the cutting. It remains to be shown whether or not the system actually serves as a check to vigor.

In the discussion of these several systems of summer pruning, they have been recommended from the viewpoint of similar environmental conditions. Much of the conflicting opinion regarding the possibility or manner of influencing the fruit buds through pruning methods has arisen because men have applied different methods, or similar methods under widely different environments. There can be no doubt that there are some advantages in all of them. The main idea must be to avoid becoming an extremist. If winter pruning has not been a success, try combining with it rational summer pruning, an increase or decrease of tillage, an inter-crop or shade crop, fertilization, irrigation, or all of them. Above everything else, become familiar with the bearing habit of the variety being grown; make a careful study of how the fruit buds are distributed, the proportions of crop borne on spurs, axillaries and terminals, and note the adjustment of the variety to specific treatment and to local environment.

dry forms of summer pruning; one or two others will be mentioned later.

There are several precautions to be observed in this method. First, there is a tendency to leave the branches too long with the result that the intervals between sets of branches are too great and unproductive of either fruit or branch buds. In the second place there is a tendency for vigorous trees to become too dense and therefore there should be a generous thinning out of extra branches at the time of winter pruning or in many instances preferably during the summer so as to permit plenty of light into the interior of the tree. In the third place, not all trees respond alike to the treatment, and the pruner must judge of the vigor of the tree and cut accordingly. The rule to be observed is, consider the tree as a whole, then the more vigorous the tree the greater will be the response to the heading back; or to restate the idea, in general of two trees of equal vigor, the one cut back the more severely gives the greater response. Very weak trees must be headed back severely to obtain any response whatsoever; and at best the method cannot be considered more than partially successful on them.

Two other methods of summer pruning have been so generally recommended that they should be mentioned in this connection. The first one consists of thinning out, the other of a heading, clipping, or pinching back of the terminals in late summer. A few observations and brief experience only can be given in regard to these methods.

It is claimed that thinning out during the summer offers several advantages, among them that it does away with the necessity for any heavy win-



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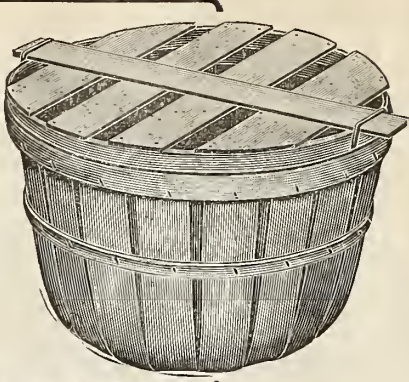
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sires rather to consider in this article the letters of criticism rather than the letters of commendation. The main criticism comes from the salesman-manager of one of the large associations, who briefly comments as follows, "in checking up the list of towns sold by his association during the past year he finds that 29 towns of over 3000 population were sold by his association that do not appear on the list, and 41 towns under 3000 were sold by his association which do not appear on the list." The editor desires to call attention to this fact in connection with this criticism. The list of towns sold as stated in the article covered the cities reported, as handling carlots direct, by the Northwestern Fruit Exchange up to December 31, 1916, and the towns reported by the Fruit Growers' Agency only for the months of October and November, 1916. It is true there probably was a greater distribution than the list of towns indicated for the reason the reports from the Fruit Growers' Agency only included October and November shipments. It also must be borne in mind that a number of other towns may have been sold during these months where cars were diverted from their original destination to some other point which would not appear on the Fruit Growers' Agency list of towns shipped. Another point of criticism worthy of comment and one which the fruit industry should have, is this salesman's statement in connection with the number of towns that can be sold. He has called attention to a mailing list furnished by mailing list agency, which states there are only 7000 names of wholesale fruit dealers and jobbers with \$5000 capital; and therefore there are not dealers in all of the other towns and consequently it would be impossible to do business in many of them for this reason. The salesman's contention is admitted. The editor does not claim that every town or every fruit jobber in the United States can be sold. The main contention is that a greater number of towns can be sold and a greater dis-

Distribution of the Northwestern Apple Crop
By E. H. Shepard, Editor Better Fruit

THE series of article on Distribution that appeared in the July, August and September editions of BETTER FRUIT have created more comment and more favorable consideration than any series of article ever published in BETTER FRUIT since BETTER FRUIT commenced publication in July, 1906. Some managers of selling associations feel that it is the disposition of the Editor to find fault or criticize. Such has not been and is not the intention. The sole object the Editor had in writing these articles was to state the facts as nearly as possible, believing that in so doing it would stimulate the selling concerns to a greater effort of wider distribution. Every one must

admit that if the crop can be so distributed so as not to congest or glut any market that a higher level of prices can be maintained and better net results obtained for the grower, and that is what the growers want. While a great number of letters of appreciation have been received from many fruit growers and members of the different associations, commending the editor for the valuable information furnished, the first of its kind ever published by the way, and assuring the editor it is their opinion that this series of articles will stimulate and create a greater and a better distribution of the Northwestern apple crop than we have had, the editor de-

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tribution created in selling individual dealers in small towns in carlots. The editor realizes there are thousands of dealers who could not handle carlots, and on the other hand there are many instances in some of the small cities where if one dealer could not handle a carload, three or four dealers combined could. This plan has been successfully used by some of the progressive fruit concerns of the Northwest. Manufacturers and jobbers frequently place carloads which are divided among three or four dealers in one city. Fruit shippers can do the same where such an arrangement is advisable. The article on Distribution of the Peach Crop of New York City is very significant in connection with the distribution of the Northwestern apple crop. This article appears elsewhere in this edition. Special attention is called to the fact that the New

York peach crop amounted to about 5000 cars. The record shows that 4419 cars were shipped to 339 cities. As the apple crop of the Northwest is about five times as great as the New York peach crop it would mean that the apple crop of the Northwest could reasonably be expected to cover five times as many cities as the New York peach crop, or 1695 cities and towns, and it is reasonable to assume, as peaches are a perishable commodity and have to be sold in a limited time, that many dealers could handle a carload of apples where they could not handle a carload of peaches.

In making a comparison on the distribution of the New York peach crop with the Northwestern apple crop, please bear in mind that the distribution of the New York peach crop, for reasons which every fruit grower well understands, was confined principally to New York State, the New England States, Pennsylvania, Michigan, New Jersey, Maryland and Indiana, in reality covering approximately less than one-tenth of the area of the United States.

The editor of BETTER FRUIT does not claim to be a prophet nor to be absolutely correct at all times, and even if some of his contentions or opinions are incorrect, the editor believes that much good will come out of the work already done along this line if the managers and salesmen will only give the matter of distribution their fullest and most careful attention. The very fact that this salesmanager criticized this article appearing in BETTER FRUIT and took the pains to check up his list and secure a list of the fruit jobbers with \$5000 capital, indicates that he realizes the possibility of a greater distribution, and has taken the trouble to look into the matter and find out just where he is at. If other salesmen will do the same careful work as this one has done it is just this kind of work that will result in a greater distribution.

Save Your Own Vegetable Seed.

Home gardeners as well as truck growers who find seed of favored varieties difficult to secure or high in price would do well to save their own seed, according to the United States Department of Agriculture. The saving of seed from beans, peas, corn, peppers, okra, egg plant, squash, cucumbers, muskmelons and watermelons is very simple, the chief requirement being to select seed from good plants. Obtaining seed from tomato, radish, lettuce, kale, collards, cabbage, kohlrabi, beets, carrots and mustard, while not so simple, is not beyond the ability of any amateur gardener. A newly published Farmers' Bulletin, "Saving Vegetable Seeds for the Home and Market Garden," (No. 884) which will be supplied free by the United States Department of Agriculture, explains in detail how to gather and cure seeds commonly needed by truck growers.

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ADVERTISING RATES ON APPLICATION

Entered as second-class matter December 27, 1906, at the
Postoffice at Hood River, Oregon, under Act
of Congress of March 3, 1879.

The Tenth National Apple Show will be held in Spokane, November 19-24th, inclusive. Just think, this is the tenth year for the National Apple Show, and it seems but a moment ago when Spokane startled the world with the famous announcement, the first of its kind ever made, they would hold an exhibit to consist of apples in carloads. Nothing of the kind had ever been done before. Previous to that time apples had been exhibited, as everyone knows, on plates in county and state fairs, in a small way box exhibits had been made under the auspices of the Northwestern Fruit Growers' Association, an old organization consisting of growers, fruit dealers and railroad men and everybody interested in the business, who held annual meetings successfully in Oregon, Washington and Idaho along in the winter months. Hood River had put up a small local exhibit, called the Hood River Apple Fair at which were usually exhibits from 100 to 500 boxes of apples. The National Apple Show of Spokane has done more to promote the apple industry of the Northwest and to develop it than any other similar effort. It has provided a common meeting ground for growers from all over the Northwest where they have had an opportunity to see what each other was producing; how they were packing it, and a chance to learn how to do things better. Growers universally profited from the knowledge gained from the splendid exhibits of perfectly graded and properly packed fruit. In addition to this, the Apple Show always held a convention at which was discussed all problems pertaining to the fruit growing industry—in earlier years more particularly the growing and cultural methods, and in recent years marketing, distribution prices, advertising

and transportation. The National Apple Show has done more to standardize the Northwest exhibit—more to bring the growers closer together and do away with petty jealousies that existed between other fruit districts than any other public institution of the Northwest. It is entitled to the fullest support of every fruit grower. Growers should be liberal in their exhibits. No grower can afford to miss attending this show—it is of real value, of real interest, and affords a pleasant diversity for the fruit grower, a nice vacation with a splendid opportunity for a little sight-seeing in the beautiful and attractive city of Spokane, where there are many good theatres and many other public places of entertainment and amusement. It must be borne in mind that Spokane is entitled to a great deal of credit, because the Editor knows that business men of Spokane have put up for this show every year, and each year the receipts were less than the expense—the Spokane business men digging down in their pockets to make up the deficit. Progressive Spokane business men are willing to do this on account of the importance of the apple industry of the Northwest to business interests. In the end, Spokane will not be the loser, because Spokane will profit by the increased business of the apple growers. The prizes this year are very attractive, consisting of \$3000 in cash. Exhibits will consist of equipment for pruning, spraying, picking, packing, etc. Every implement, and every piece of machinery used by the apple growers in their business will be on exhibit, so every fruit grower will have an opportunity to see all of the different kinds and makes and judge for himself which is the best. DON'T MISS THE APPLE SHOW.

Comment on Distribution.—A comment is made by one of the sales managers on the articles on distribution appearing in the July edition of BETTER FRUIT, calling attention to the fact that nineteen cars appearing on his list are not included. The Editor does not question the statement for one moment and in way of explanation desires to say that the report only included the concerns reporting to the Fruit Growers' Agency for October and November, and the Northwestern Fruit Exchange up to December 31st. Diversions are frequently made which would not appear on the list. In towns under 3000 he claims to have sold 41 that do not appear on the list. He also calls the attention of the Editor to the fact he has obtained a list of fruit jobbers with \$5000 capital, and states there are but 7000 on the list. Admitting that this is correct we have sold less than one-tenth of the number. The Editor desires to express his appreciation and thanks for this comment, and in addition desires to commend this manager and to say it is the best kind of evidence in the world that the articles on distribution are proving of value to the fruit growers

because it indicates that this man is progressive enough to check up his list and obtain a list of all the possible dealers with capital large enough to justify credit. If other sales managers will do as much the question of distribution will be solved in the near future.

Mr. G. Harold Powell, assistant to Howard Hoover, delivered a most excellent address before the International Apple Shippers' Convention on Food Conservation, which appears elsewhere in this edition. The father of G. Harold Powell had a large orchard in New York State where Mr. Powell learned the orchard business as a boy. After attending college he specialized in horticulture, taking a position in the Department of Agriculture, at Washington. Many fruit growers of the Northwest have met Mr. Powell, who annually makes trips to the Northwest to study conditions. Afterwards Mr. Powell became chief executive in the Department of Agriculture, Washington, later accepting a position with the Citrus Fruit Growers' Association at the highest salary paid any sales manager by a fruit concern anywhere in the world. Mr. Powell has secured a leave of absence to do his duty to the government and probably at a very small salary compared with what he is paid by the association. The Editor knows Mr. Powell intimately, having known him for many years, and recognizes him as one of the ablest men in the fruit business in America, therefore unhesitatingly advises everyone to read Mr. Powell's article in this edition.

Distribution of the Peach Crop.—The articles appearing in July, August and September editions of BETTER FRUIT on the Distribution of the Northwestern Apple Crop have proved exceedingly interesting. In this issue is published the Distribution of the Peach Crop of New York. The crop amounted to about 5000 cars, a record being obtained of 4419 cars distributed in 339 cities. The apple crop of the Northwest last year was over 20,000 cars, being distributed to a little over 600 cities and towns. If the Northwestern apple crop had been as well distributed as the New York peach crop they would have sold to 1600 towns. The peach crop of New York was marketed in about one-tenth of the area of United States, whereas Northwest apples are marketed over the entire United States. Peaches are limited in distribution on account of their exceedingly perishable nature and for this reason only comparatively large dealers in large cities can handle peaches in carlots. On account of the longevity of apples and splendid keeping qualities, much smaller cities and much smaller dealers can handle carlots, for reason of the very long time given to dispose of a carload before it begins to show decay or become over-ripe.

Apple Prices.—There is an immense range in the price lists being sent to the trade by the different organizations on some varieties of apples. For instance, Spitzenburgs, extra fancy, are being quoted at \$1.65, \$1.75, \$1.85, \$1.90, some have been sold as low as \$1.50. There is also a wide range in the difference in the price of fancy compared to extra fancy—for instance, one concern quotes \$1.75 for extra fancy Spitzenburgs, fancy at \$1.65. Another concern quotes extra fancy \$1.75, and quote fancy \$1.50. One makes a difference of 10c between extra fancy and fancy. Another 25c. It would seem their idea ought to be nearer together on fancy as both agree on extra fancy. It was suggested last year that the sales managers connected with the Fruit Growers' Agency meet in conference and get each others' ideas of values. Of course, it is understood they could not arbitrarily fix a price on account of the Anti-Trust laws, but it would seem they ought to become better informed and have a clearer idea of the value than is indicated by the great difference in prices being quoted, which range, for instance, on Spitzenburgs as already stated, for the following scale, \$1.50, \$1.65, \$1.75, \$1.80 and \$1.90.

Values of Apples.—The prices of apples this year are considerably higher than in 1916, apparently due principally to the difference in quantity this year as compared with last year. One point worthy of consideration with every fruit grower and every sales manager, and in fact every buyer as well, is that nearly every other commodity has increased in price. All implements, tools and supplies cost the fruit grower a great deal more this year than last. All spray material, fertilizer and other materials have also increased in price. Wages have gone up—boxes have advanced, last year boxes cost 10½ cents and this year 18 to 20 cents. This year growers estimate the increased cost of apples anywhere from 25 to 40 cents per box, consequently fruit growers must get a much higher price this year for their apple crop to pay the cost of production and anything like a fair profit.

Harvesting.—When the Editor was in Washington, D. C., a few years ago, he had the pleasure of being shown the hand colored paintings of apples that had been placed on cold storage, showing the effect on the keep of picking at the proper time. In a word, all apples that are picked too early or too late either scald or show off-condition in a comparatively short time after coming out of cold storage. Experiments carried on in the Northwest, of which the Editor has seen many, all conclusively prove the same thing. The Editor of BETTER FRUIT picked some Spitzenburgs in 1915 when the red had become a bright color and the basic color, whitish, not yellow, packed them promptly and placed them on cold storage, keeping them a year and

ten months in fine condition. So it behooves the apple grower not to pick too early or let them become too ripe, if he wants to have them in the best keeping condition and deliver them to the consumer in first-class condition.

Shortage of Supplies and Equipment.—The shortage of raw materials in all lines and increasing prices, undoubtedly will continue during the war and may continue for some time afterwards, making it important for every fruit grower to buy all articles he is going to need for the coming season at the earliest opportunity. If he does not, it is pretty certain they will be higher in price and it is quite probable if he puts it off too long he may not be able to purchase at all. A great many manufacturers have been unable to fill their orders this year on account of the shortage of raw materials, consequently the fruit growers should not delay in securing such articles as they may require for the coming season.

NORTHWEST FAIR DATES

OREGON COUNTY AND LOCAL FAIRS

Washington County—Forest Grove, October 2 to 5.

Lane County—Eugene, October 3 to 5.
Interstate Fair—Prineville, October 3 to 6.
Local Fair—Albany, October 12 to 14.

WASHINGTON COUNTY FAIRS

Klickitat County—Goldendale, October 9 to 13.

IDAHO COUNTY FAIRS

Minidoka County—Rupert, October 2 to 6.
Washington County—Cambridge, October 3 to 5.

OTHER EXPOSITIONS

Manufacturers' and Land Products Show—Portland, November 3 to 24.

Northwest Livestock Show—Lewiston, November 8 to 15.

Pacific National Dairy Show—Portland, November 16 to 23.

Pacific International Livestock Show—Portland, November 19 to 24.

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The Orchard Ladder of Quality must bear the name "**Northwest.**" Thousands are sold on their merits. Ask your dealer to let you see our Ladder.

If your dealer does not carry our ladder in stock, write us direct for prices.

No crushed fruit if you use the **Barnett Fruit Picking Pail.**

PRICE \$2.00

Information on our Orchard Supplies will be gladly given on request.

N. W. Fence & Supply Co.

Station A

When ready to prune your trees, remember the Bastian Pruner. Superior to all others for ease and speed.

Portland, Oregon



High Living Eighty Years Ago

By F. C. Bradford, Amherst, New Hampshire

DISCUSSIONS of the high cost of living frequently turn to the "good old days," the inference being that the good old days was a Golden Age, when food and shelter and clothing did not vex the mind and the family income could be devoted to Latin lexicons and Transcendental essays. When great-grandfather and great-grandmother took their respective gold-headed cane and market basket and walked down to Fanueil Hall and Quincy Market, if—as all respectable ancestors should—they lived in Boston, a few large coppers, we are prone to believe, sufficed to buy a week's supply of food.

If misery loves company the present generation can take comfort in viewing the prices of fruits in those days of plain living and high thinking. We have before us, as we write, market quotations, taken once a month, for Fanueil Hall and Quincy Market, gleaned from the files of the Magazine of Horticulture from 1834 to 1846, and to judge from these figures, Bostonians of that time could not have been penurious—or they got along without fruit.

Consider the peach. Not Crawford's or Elbertas, but Malacatunes, Oldmixon's and Red Rarieripes. Large peach orchards existed at this time in

New Jersey and Delaware, but much of the product was made into brandy. The Boston market was chiefly supplied first, with peaches forced under glass, second, with peaches brought in from New York and finally, with "natives." Consequently on July 23, 1836, to be exact, the cheapest peach on the market cost twelve coppers and a half-cent; the best cost twenty-five cents each. There were no quotations on larger quantities. On August 22 of that year they were cheaper: twenty-five to fifty cents a dozen; \$1.50 to \$2.00 per peck and \$6 to \$8 per bushel. In September they were down to from \$3 to \$4 per bushel, with twenty-five cents the cheapest price per dozen. Forced peaches—grown under glass—sold in July, 1837, for six dollars a dozen.

Concord grapes were unknown, for Ephraim Bull had not yet raised the original Concord. For most of the year the market was supplied with forced grapes, Black Hamburgs and White Sweetwaters, at from fifty cents to \$1.50 a pound; many greenhouse establishments of the time were devoted to this crop. Isabella and cat-awba grapes, grown out-of-doors, sold occasionally as low as eight cents per pound; at this rate we should pay sixty-four cents for our eight-pound basket. This was the lowest quotation of the period; the standard price was twelve and a half cents per pound, at the rate of a dollar a basket. November, 1835, found Malaga grapes on the market, at thirty-seven to fifty cents a pound; two years later they were down to twenty-five cents.

No Boston back-yard—and there were many in those days—was complete without its assortment of pear trees. Indeed, Eastern Massachusetts was then the leading pear-growing section of the country and most of our Bonchretienas, St. Michaels, Capiaumonts, Urbanistes and so on, entered this country through Salem or Boston. Yet with all the abundant supply at hand, in September, 1839, Seckels were selling at seventy-five cents per half peck, Urbanistes and Heathcots at

APPLES

PEARS

ORANGES

For European Distribution.
Boxed Apples and Pears a Specialty.

GERALD DA COSTA

100 & 101, Long Acre, Covent Garden, London, W. C. 2, England

Cables: "Geracost, London."

Codes: A. B. C. 5th Edition and Private.

Shipping Agents: LUNHAM & MOORE, Produce Exchange, New York.

Harness costs money these days. Take care of it. Make it last years longer by using Eureka Harness Oil - the preservative oils protect the leather fibre from dirt, sweat and moisture. Keeps harness jet black.

Eureka Harness Oil

Standard Oil Company
(California)

fifty cents per dozen, while in October of that same year Beurre Dix brought seventy-five cents a dozen, and in November our thrifty ancestors paid, for St. Germain, fifty cents to a dollar per dozen. These figures are but typical; even higher quotations might be cited.

On the other hand, if little Nehemiah wanted an orange, his father could have bought, on February 20, 1835, one hundred sour oranges for one dollar or the very best for a dollar and a half, or a hundred lemons for between seventy-five cents and a dollar, while a pineapple would have cost between twenty-five and fifty cents. These were all imported. Along in July the price was up to three dollars for oranges and in November they were selling at thirty-seven to sixty-two cents per dozen. Then, with a falling off in quality, they dropped again to from twenty-five to thirty-seven and a half. In 1838 Sweet Havanas appear in the quotations, the February prices for these being fifty to seventy-five cents a dozen, while "common" oranges were bringing twenty-five to fifty. Havanas held their price pretty consistently. Lemons could be bought, even in summer months, for twenty-five cents a dozen, often for less.

Other fruits seem rather high in price. For example, here are the quotations for strawberries by the quart, June 29, 1843: Methven Scarlet, twenty-five cents; Hovey's Seedling, thirty-seven to fifty; Keen's Seedling, twenty-five to thirty-one.

Here, selected at random, are quotations on plums, for August 28, 1841: Washington, thirty-seven cents per quart, White Gage, twenty-five; Green Gage, twenty-five; "common," twelve and a half, and for Damsons, a dollar

Attention, Fruit and Vegetable Growers

CAN your Fruits, Vegetables, Meats and Fish in Sanitary Cans, with the H. & A. Steam Pressure Canning Outfits, built in Family, Orchard and Commercial size; seal the cans with the H. & A. Hand or Belt Power Double Seamer; they will save your perishable fruits and vegetables at ripening time when nothing else will. Write for descriptive matter.

Henninger & Ayes Mfg. Co.
47 S. First St., Portland, Ore.

Cherry Trees

Fruit and Ornamental Trees, Shrubs, Vines, etc. *Free Catalog. Agents Wanted. Special Terms.*

MILTON NURSERY COMPANY
MILTON, OREGON

PORTLAND WHOLESALE NURSERY COMPANY

Rooms 6 & 7, 122½ Grand Ave., Portland, Oregon

Wholesalers of Nursery Stock and Nursery Supplies
A very complete line of
Fruit and Ornamental Trees, Shrubs, Vines, Etc.

SPECIALTIES

Clean Coast Grown Seedlings
Oregon Champion Gooseberries and
Write Now Perfection Currants Write Now



California

Playground of America

Invites the world and you to come and enjoy this winter out-of-doors. Automobiling along numberless miles of beautiful highways; golf, tennis, polo and all manner of out-door sports; places and vistas interesting and beautiful beyond comparison or description. You must see for yourself.

THE DIRECT ROUTE TO THE SUNNY SOUTHLAND IS

Union Pacific System

Go one way, at least, via Great Salt Lake and the

Salt Lake Route

through Redlands, Riverside, Pasadena and the vast
ORANGE GROVES of Sunny California

We will be glad to help plan your trip. Ask

WM. McMURRAY, GENERAL PASSENGER AGENT, PORTLAND
for illustrated booklets, information, etc.

a peck. That same year raspberries were selling at twenty to thirty-seven cents a quart; blackberries were bringing seventeen to twenty.

Now as to apples: the average prices in the period 1834 to 1846 were somewhat below those of recent years. Some three or four years ago Mr. H. lication, worked out the average wholesale prices of apples in New York from 1893 to 1913. Though these figures are not strictly comparable with the Boston prices for the earlier period, we have utilized some of them in an interesting table or two. Then, as now, Baldwin constituted the B. Knapp, in a Cornell University publication of the apple trade. In Table I.

the average prices, month by month, for the earlier and later periods are compared:

TABLE I.—AVERAGE PRICE OF BALDWIN APPLES.

	1834-46	1893-1903	1903-13
September	\$1.93	\$1.75	\$2.08
October	2.09	1.85	2.16
November	2.25	2.30	2.39
December	2.43	2.61	2.54
January	2.57	2.75	2.80
February	2.75	3.03	3.19
March	2.89	3.15	3.40
April	3.54	3.45	3.64
May	4.11	3.56	4.07
June	5.00	3.57	4.03

These figures show, for that part of the season when trading is most active, a fairly uniform advance in price, though the falling off in May and June is noteworthy. This may be

Denney & Co.

CHICAGO

Specialize in Box Apples and Other Western Fruits

WE'RE READY TO TALK BUSINESS WITH THOSE
HAVING GOOD FRUIT

Write or wire us what you have to offer



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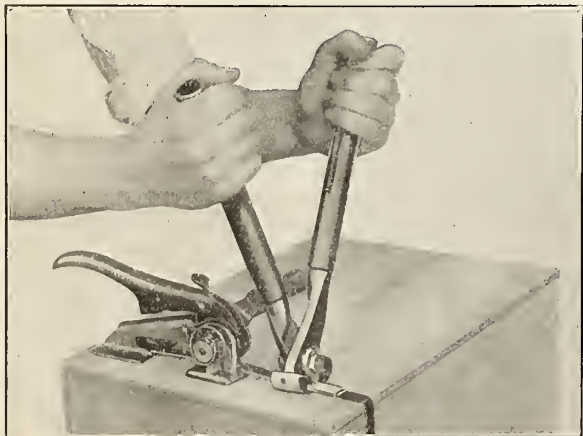
That's what happens when the spindle and sleeves rub together—due to the microscopic roughness on all metal surfaces. But the powdered mica in Mica Axle Grease fills up this invisible roughness—makes a far smoother, cooler bearing, and the grease lasts twice as long.

STANDARD OIL COMPANY
(California)

MICA AXLE GREASE



Steel Box Strapping



Used in connection with metal seals consists of encircling a package with a metal strap, drawing the strap very tight and interlocking the overlapping strap-ends within a metal sleeve (**SIGNODE**) in such a manner that the joint has a greater tensile strength than the strap itself. Nails, rivets and buckles, with their attendant objections, are entirely eliminated.

*Write for
Catalog*

Acme Strapping packed in bbls. of about 500 lbs. or larger pkgs.
Metal Seals packed in cartons containing 2,000-2,500 seals.

ACME STEEL GOODS CO. MFRS.

Factory: 2840 Archer Ave., Chicago

311 California St., San Francisco

due to cold storage making a greater supply available for these months or it may be due to increased competition with other fruits.

In Table II. all varieties are averaged together. This is hardly an approved statistical method, since Baldwin should be weighted more heavily in such a table than a less common variety, like Spitzenburg, but since no figures as to amounts of sales were available, all were averaged in alike.

TABLE II.—ALL VARIETIES, BY MONTHS.

	1834-46	1893-1913
August	\$2.11	\$2.27
September	1.86	2.32
October	2.08	2.41
November	2.23	2.66
December	2.31	2.81
January	2.39	2.94
February	2.49	3.26
March	2.58	3.35
April	2.77	3.56
May	3.31	3.74
June	3.67	3.70

Both tables indicate a slight increase in the price of apples. Measured in terms of other commodities, however, the rise is slight indeed. On the other hand, considering the vastly increased production and use of other fruits, the apple shows a surprising ability to hold its own. Apples and lemons seem to be the only fruits to show any well-marked advance in price in seventy or eighty years; the lemon alone shows a sharp advance.

The conclusion seems inevitable then, that fruits are cheaper, relatively and actually, than when our great-grandparents went shopping. To that extent the consumer is better off now than he was in the "good old days."

Tenth National Apple Show

By Ren H. Rice, Spokane, Washington.

SPokane is preparing to stage the Tenth National Apple Show in that city November 19 to 24 inclusive. Preliminary plans and purposes have been announced, indicating that the exposition, while steadfastly carrying forward its original purposes of fostering and emphasizing the importance of the apple as a food product, will take on new lines of endeavor which are peculiarly appropriate to the spirit of the times. With the nation engaged in a long struggle requiring the utmost in food saving, the Apple Show trustees have quite properly announced that the dominant feature of the show this year will be conservation of the apple, augmented by patriotic features calculated to inspire recruiting and aid the government in its various phases of war preparation.

The show will be held on the grounds adjoining the Union Pacific-Milwaukee depot, which location has been found so admirably suitable during the past three shows. The affair is being directed by thirty-five business and professional men, aided and advised by fifty practical growers and shippers from Washington, Oregon, Idaho and Montana. Jake Hill, proprietor of the Hill Shoe Company, is president of the National Apple Show. He has been a resident of the Northwest nearly all his life, and has been identified with many movements

J. & H. GOODWIN, LTD.

Apple Exporters and Commission Merchants

Offices:

London, Liverpool, Manchester and Hull, England

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Address Correspondence: 60 State St., Boston, Mass.



This Pioneer Bank
invites you to
make this your
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Successful People

never spend all they earn. They save not occasionally but regularly. Start a savings account now or add to your savings account regularly from now on. It will give you a new lease on life.

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PORTLAND, OREGON

East *Via* California

Most enjoyable route. Beautiful mountain scenery. Liberal stopovers. See San Francisco, Los Angeles, Apache Trail, El Paso, New Orleans.

Three daily trains from Portland connecting at San Francisco for the South and East. First and second class sleeping cars. Unexcelled Dining Car Service.

Ask your local agent for tickets and booklets descriptive of this wonderful trip.

John M. Scott, General Passenger Agent,
Portland, Oregon

Southern Pacific Lines

for the advancement of the Inland Empire interests. In assuming the presidency of the Apple Show, he made the one stipulation that the exposition should be primarily one to exploit the apple, and that its leading features should be approved by the men who know the apple business and who realize its importance to the Northwest. President Hill promises plenty of amusement features and liberal entertainment programs, but he wisely in-

sists that first, last and always this shall be an *Apple* show.

Since the first National Apple Show was born in Spokane in 1908, it has been a big factor, if not the biggest factor, in drawing the world's attention to the wonderful adaptability of the Northwest to the production of the apple. At first the show was held largely to advertise this fruit and to encourage its consumption. This was during the time of the big carload dis-

plays, a feature which has never been attempted by any other apple exposition. Along with the advertising came the conventions of fruit growers and fruit shippers who annually have met for the exchange of ideas and who have constantly labored for a higher standard of commercial apple growing, until now the Northwest virtually sets the pace for the entire country in fruit excellence. This feature alone has made the National Apple Show invaluable.

Marketing problems have grown even as the apple orchards have increased. They are far from solution yet but recent years have proven the futility of several marketing attempts, while at the same time they have proven the value of others. The ideal method is yet to be evolved and the annual conferences at the National Apple Show are most helpful in this respect.

The National Apple Show has always been a money loser. The people of Spokane expect it always will be. No such an exposition can be held on so big a scale, give the prizes which it does to stimulate competition and furnish such big entertainment programs without being conducted at a loss, because it is impossible to charge an admission price which will bring sufficient return to meet receipts and be within reach of the general public. But the people of Spokane believe the Apple Show is a big advertising asset to the community and they realize that it brings much business to the city, indirectly making returns for the money they cheerfully put up each year. Consequently they are backing the Tenth National Apple Show with the same optimistic spirit that has characterized the nine previous exhibitions.

WITTE Kero-Oil ENGINES



Immediate Shipment

Direct from Factory—SAVE \$15 TO \$200—Simple in construction, strong and powerful, few working parts—easy to understand, easy to operate, easy to own. Buy practically on your own terms—Cash, Payments or No Money Down. 90-Day Trial—5 Year Guarantee. Write for latest prices.—ED. H. WITTE,

WITTE ENGINE WORKS

1887 Oakland Ave., Kansas City, Mo.
1837 Empire Bldg., Pittsburgh, Pa.

THE ORIGINAL CHEMICAL Indoor Closet

30,000 SOLD—FIFTH YEAR
More Comfortable,
Healthful, Convenient

Eliminates the out-house, open vault and cess pool, which are breeding places for germs. Have a warm, sanitary, odorless toilet right in your house. No going out in cold weather. A boon to invalids. Endorsed by State Boards of Health.

ABSOLUTELY ODORLESS

Put It Anywhere In The House
The germs are killed by a chemical process in water in the container. Empty once a month. No more trouble to empty than ashes. Closet absolutely guaranteed. Guarantee on file in the office of this publication. Ask for catalog and price ROWE SANITARY MFG. CO. 1410 6th ST., DETROIT, Mich.
Ask about the Ro-San Washstand—Hot and Cold Running Water Without Plumbing

WONDERFUL EGG PRODUCER

Any poultry raiser can easily double his profits by doubling the egg production of his hens. A scientific tonic has been discovered that revitalizes the flock and makes hens work all the time. The tonic is called

"MORE EGGS"

Give your hens a few cents' worth of "More Eggs" and you will be amazed and delighted with results. A dollar's worth of "More Eggs" will double this year's production of eggs, so if you wish to try this great profit maker, write

E. J. REEFER, Poultry Expert

3897 Reefer Building

KANSAS CITY, MISSOURI

who will send you a season's supply of "More Eggs" Tonic for \$1.00 (prepaid). So confident is Mr. Reefer of results that a million-dollar bank guarantees if you are not satisfied your dollar will be returned on request and the "More Eggs" costs you nothing.

Send a dollar today, or ask Mr. Reefer for his FREE Poultry Book that tells the experience of a man who has made a fortune out of poultry.



YOU CAN EARN \$50.00 PER DAY
WITH THE
Gearless Improved Standard Well Drilling Machine

Drills through any formation. Five years ahead of any other. Has record of drilling 130 feet and driving casing in 9 hours. Another record where 70 feet was drilled on 2½ gallons distillate at 9c per gallon. One man can operate. Electrically equipped for running nights. Fishing job. Engine ignition. Catalogue W-8.

REIERSON MACHINERY CO., Mfg., 1295-97 Hood St., Portland, Ore.

An attractive list of prizes has been issued, with some sweepstakes and championships which should appeal strongly to the growers. For instance, in the five-box competition there are fifteen separate contests, ranging from Arkansas Black to Yellow Newtown. The best five boxes in each of the fifteen lots will draw \$25 in gold; the second, \$10, and the third \$7.50, and besides each and every entry competing in the fifteen contests will be eligible for a sweepstakes of \$100 additional. This means that the winner of the five-box contest on Grimes Golden, for example, will get \$25 and, without making any additional entry, he stands a chance of winning \$100 additional.

Virtually the same proposal applies to the three-box contest, in which there are 20 varieties open, with a first-class prize of \$15, a second of \$10 and a third of \$5, and a \$75 King Pip Sweepstakes for the best of all entries in the 20 varieties and no special entry required, all three-box exhibits competing.

In a single box contest the lucky first prize winner will be given \$7.50, the second \$5 and the third \$2.50, and all of the entries stand a chance for the \$50 grand championship prize offered, as the trustees say, "for the best single box of apples in the world." There are 22 varieties in which entries can be made, and in addition to these any exhibitor in the five-box or three-box contest may designate any one of his boxes in those exhibits to compete also in the single box division.

Just to sweeten things a little more, the show offers \$25 additional to the exhibitor who has the largest number of boxes of apples which win prizes in the one, three and five box classes. As a sister prize another \$25 is offered to the exhibitor who has the largest number of entries in these three

classes. It would take some mathematician to figure out just how much money the individual grower can win if he is lucky enough to carry off the blue ribbon in several of these competitions.

Originators of slogans and creators of brilliant advertising ideas are to have special recognition this year. Six separate prizes are offered by the North Pacific Fruit Distributors and their affiliated shippers to stimulate gray matter fertility. Ten boxes of extra fancy apples, delivered to the home of the winner, will be given for the best slogan urging the use of apples during the war period. Competition in this event is open to the world and nobody barred from making any number of entries.

Five other prizes are offered for ideas as follows: Five boxes of "Blue W" apples, furnished by the Wenatchee-North Central Fruit Distributors, for the best 250-word article on the subject, "Wheatless and Meatless Days Made Easy." Five boxes of "Blue I-O" apples, furnished by the Idaho-Oregon Fruit Growers' Association, for the best 250-word article on "Apples as Mr. Hoover's Ally." Five

boxes of extra fancy apples, furnished by the Western Oregon Fruit Distributors, for the best 250-word article on "Apples the Wasteless Food." Five boxes of "Blue M" apples, furnished by Montana Fruit Distributors, for best 250-word article on "Apples as a Part of a Well-Balanced Ration." Five boxes of "Blue Selah" Yakima apples, furnished by Selah Fruit Distributors, for best 250-word article on "Apple Consumption a Patriotic Duty."

General district displays are encouraged by the offering of \$125 first prize and a Gold Medal Banner, with \$75 and Silver Medal Banner for second prize, and \$50 third prize. The contest is open to commercial clubs, associations, unions, counties, or districts (not by individuals).

Novelty feature exhibits are sought for with prizes of \$125, \$75 and \$50 for first, second and third prize winners. This contest will be open to commercial organizations, community and fruit growers' organizations and individuals.

James A. Ford, secretary of the Spokane Chamber of Commerce, is the business manager of the show.

MONTHLY CROP REPORT.

ESTIMATED APPLE CROP CONDITIONS SEPTEMBER 1, 1917, WITH COMPARISONS.

STATE	Condition Sept. 1.		Forecast 1917 from condition.		December estimate, 1916.	
	1917.	10-year average.	Total Sept. 1.	Total Aug. 1.	Total.	Commercial.
	Pct.	Pct.	Bushels	Bushels	Bushels	Barrels
Maine	56	59	4,460,000	4,630,000	818,000	941,000
New Hampshire ..	52	61	1,170,000	1,350,000	175,000	250,000
Vermont	45	60	1,654,000	2,064,000	220,000	497,000
Massachusetts	52	65	2,343,000	2,623,000	359,000	517,000
Rhode Island	45	64	196,000	263,000	9,000	13,000
Connecticut	47	65	1,328,000	1,512,000	110,000	153,000
New York	31	55	18,445,000	22,186,000	3,075,000	6,930,000
New Jersey	55	61	1,977,000	1,977,000	363,000	413,000
Pennsylvania	57	58	12,690,000	14,310,000	1,269,000	1,862,000
Delaware	72	58	438,000	436,000	80,000	37,000
Maryland	62	62	2,610,000	2,610,000	365,000	297,000
Virginia	53	60	10,335,000	10,725,000	1,515,000	1,995,000
West Virginia	43	56	5,728,000	5,861,000	764,000	1,271,000
North Carolina	65	59	6,669,000	6,669,000	489,000	637,000
South Carolina	82	55	849,000	859,000	5,000	4,000
Georgia	72	57	1,741,000	1,687,000	192,000	157,000
Ohio	38	47	7,367,000	8,724,000	736,000	860,000
Indiana	54	48	5,775,000	6,076,000	520,000	261,000
Illinois	64	42	8,291,000	8,233,000	968,000	566,000
Michigan	32	53	6,470,000	8,803,000	820,000	1,414,000
Wisconsin	54	59	2,479,000	3,305,000	115,000	105,000
Minnesota	70	63	1,386,000	1,426,000	16,000	42,000
Iowa	58	49	5,963,000	6,169,000	198,000	110,000
Missouri	57	45	12,825,000	11,886,000	1,197,000	675,000
South Dakota	72	63	330,000	367,000	4,000	348,000
Nebraska	64	50	2,446,000	2,436,000	163,000	142,000
Kansas	42	43	3,024,000	2,957,000	252,000	208,000
Kentucky	64	54	8,486,000	8,619,000	424,000	215,000
Tennessee	51	53	5,118,000	5,018,000	205,000	177,000
Alabama	67	52	1,411,000	1,390,000	24,000	19,000
Mississippi	59	50	416,000	374,000	7,000	6,000
Texas	55	58	408,000	414,000	13,000	20,000
Oklahoma	66	54	1,624,000	1,495,000	53,000	27,000
Arkansas	67	52	4,446,000	4,140,000	816,000	590,000
Montana	65	78	897,000	925,000	135,000	102,000
Colorado	74	58	3,774,000	4,013,000	628,000	367,000
New Mexico	58	63	635,000	616,000	127,000	59,000
Arizona	65	75	129,000	129,000	16,000	17,000
Utah	90	67	810,000	816,000	135,000	3,000
Nevada	83	64	194,000	216,000	2,000
Idaho	93	72	2,092,000	2,025,000	246,000	15,000
Washington	84	78	13,435,000	3,583,000	3,467,000
Oregon	66	76	3,322,000	3,329,000	388,000	514,000
California	83	79	5,583,000	5,515,000	1,210,000	1,217,000
United States ..	51.1	53.3	177,157,000	187,743,000	21,315,000	25,695,000

Food Administration, Etc.

Continued from page 5.

ducer, the distributor, the consumer and the government it is entirely possible to give the producer a good price for his product, the distributor a reasonable return for the service which he performs and the consumer his supply at a fair cost. It is in this spirit of confidence and co-operation that I represent Mr. Hoover, the United States Food Administrator.

Food Administration Will Encourage a Greater Use of Perishables.

In the readjustment of the world's food supply, perishable foods are suddenly thrown into national prominence. This, therefore, is the greatest opportunity for development that has ever been presented to the perishable food industries. Their increased use and substitution for other foods will liberate an exportable surplus of the more concentrated foods for our Allies. Therefore, the Food Administration will encourage a greater consumption of perishable products such as fruits, vegetables, fish, poultry and eggs, as a means of sending our Allies more of the foods they must have to maintain their people at home and their armies in the field.

The Food Administration will supplement the very efficient work of the Department of Agriculture, encouraging a better handling of perishable products in harvesting, in preparing them for market, transportation, storage, in the market, and in the household in order that the enormous waste that annually occurs from bad handling may be greatly reduced. Frequently one-half or more of a perishable crop is lost by careless handling. The industries interested will, of course, need to work this problem out in a practical way. It cannot be done by discussion or the passing of resolutions.

The Food Administration will encourage organization among producers in order that the products of the farm may be shipped in standard packages, standard grades and in carload quantities. Only in this way can an equitable distribution of farm crops be effected. Organization among producers is fundamental in intelligent, economical marketing. Otherwise, distribution will be chaotic and costly to the producer and consumer alike, and frequently disastrous to the distributor. The responsibility in taking this step is the farmer's responsibility. Unless he organizes to help himself no one else can solve his problem for him. Nor can the consumer's problem be met unless farm crops are standardized and merchandised either by the producers or by the distributor in quantity.

The Food Administration will co-operate with the Bureau of Markets, through relations which it will develop with the organized perishable industries, in making its market news service more useful to the producer, the distributor, and to the consumer.

Fruit Labels

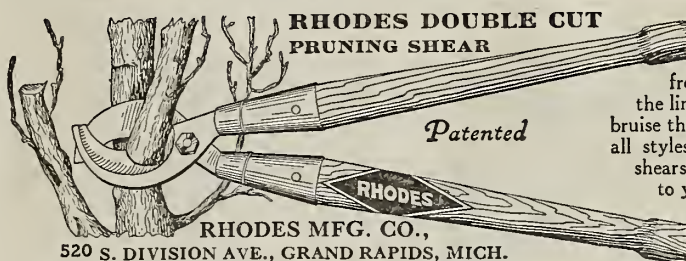
When packed in a plain box or crate, fruit is fruit. It does not mean apples or other fruit until you label it properly—and just as good clothes make a favorable impression—give distinction—so well designed and printed labels dress your package, appeal to the eye and help the sale.

Our Lithographed Labels will advertise your brand and help the dealer sell your apples.

THE UNITED STATES PRINTING & LITHOGRAPH CO.

901 Hoge Building, Seattle, Washington

112 Market Street, San Francisco, California



THE only pruner made that cuts from both sides of the limb and does not bruise the bark. Made in all styles and sizes. All shears delivered free to your door. Write for circular and prices.

OUR 1917 CLUBBING OFFER

BETTER FRUIT offers the following clubbing lists to its subscribers. If any of our subscribers desire different clubbing arrangements we shall be pleased to quote them from this office.

Western Farmer	\$1.00
Country Boy25
BETTER FRUIT	1.00
Total	\$2.25
All for	1.25

Girls' Companion	\$0.50
Boys' Companion50
Today's Housewife75
BETTER FRUIT	1.00
Total	\$2.75
All for	1.50

Western Farmer	\$1.00
Today's Housewife75
BETTER FRUIT	1.00
Total	\$2.75
All for	1.50

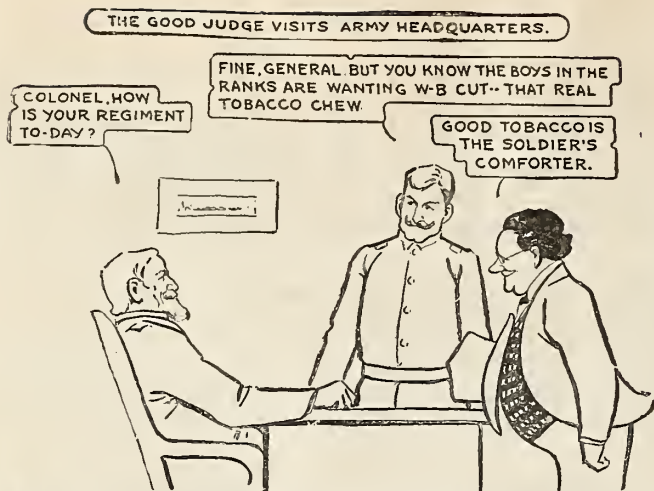
Weekly Oregonian	\$1.00
BETTER FRUIT	1.00
Total	\$2.00
All for	1.25

Hoard's Dairyman	\$1.00
BETTER FRUIT	1.00
Total	\$2.00
All for	1.30

Twice-a-Week Spokesman-Review	\$1.00
Mothers' Magazine	1.50
BETTER FRUIT	1.00
Total	\$3.50
All for	2.00

Delineator	\$1.50
BETTER FRUIT	1.00
Total	\$2.50
All for	1.80

Rural Spirit	\$1.00
McCall's Magazine75
BETTER FRUIT	1.00
Total	\$2.75
All for	1.50



WHEN you trim your outfit down to military bedrock, W-B Cut Chewing scores a bull's-eye. A soldier gets more from his pouch of W-B than from a bulky ordinary plug--rich leaf plump full of sap, *all* tobacco satisfaction, every shred of it. And the water-proof pouch keeps it clean and fresh in the pocket of his khaki.

Made by WEYMAN-BRUTON COMPANY, 1107 Broadway, New York City



PERFECTION OIL HEATER

WHEN WRITING ADVERTISERS MENTION BETTER FRUIT

It will co-operate with the railroads in securing the most efficient types of cars and an adequate supply in order that our perishables may be more safely, widely and economically distributed; it will encourage the storage of seasonable perishable products, such as apples, because the Food Administration recognizes the vitally necessary place which storage plays in the preservation of perishable foods and in equalizing their distribution throughout the year; it will encourage the development of the most desirable terminal facilities in order that the cost of inadequate distributing facilities may not unnecessarily burden the producer and the consumer; and it will promote those fundamental principles of merchandising by the wholesale and retail trade which results in a wide distribution, an increased business, quick sales at a reasonable profit per turn over and a continuous supply of fresh, appetizing food for the consumer.

The encouragement of a greater consumption of perishable foods presents an unusual opportunity to those who are engaged in the growing and distributing of perishable products, and by enlarging the perishable food business the war food problem for our Allies and for America can be more easily solved. We are, therefore, firm in the conviction that there will be a mutual co-operation and a mutual understanding of the aims of the Food Administration and of the perishable industries, the aim being to increase their consumption, eliminate the waste from bad handling, distribute them as directly as possible from the producer to the consumer at the least possible cost to both, with a reasonable compensation for the distributing services. To capitalize this unusual opportunity for self-interest, by unnecessary speculation, by storage beyond the reasonable requirements of the merchant for the purpose of distributing a seasonal surplus over the year; to restrict the supply that should be liberated from week to week; or to enhance or diminish the price or to exact excessive prices; to limit the facilities for storing; to attempt to monopolize; to wilfully destroy a perishable for the purpose of enhancing the price or restricting the trade supply or wilfully to permit preventable deterioration--these practices should make a merchant an outcast among his business associates, because the man who capitalizes patriotism for his personal ends cannot be trusted to uphold the interests of America and her Allies wherever his personal interest is involved.

I would, therefore, confidently expect that such organizations as the International Apple Shippers' Association, the National League of Commission Merchants, the Western Fruit Jobbers' Association and other regional or national trade organizations will stand shoulder to shoulder with the Food Administration in creating a patriotic sentiment among their members that will automatically regulate and con-

trol any abuses that might creep into the distributing system without the necessity of regulation and control through the law. If that sentiment is fostered and given definite direction by such organizations as the International Apple Shippers' Association in co-operation with the Food Administration, the food control problem of America will be greatly simplified.

Problem Suggested for Definite Consideration by Apple Distributors as an Aid to the War Food Problem.

I would suggest that this organization give definite consideration to the following problems in handling the apple crop this year:

(1) The reduction of waste from bad handling in harvesting the crop and in preparing it for market in co-operation with the State and Federal Departments of Agriculture.

(2) The storing of apples in the quickest possible time after harvesting to prevent deterioration from decay and ripening.

(3) A close co-operation with the Bureau of Markets and Food Administration in order to effect an equitable distribution of the crop both for immediate sale and for storage purposes, to prevent temporary gluts, short supplies and fluctuating prices.

(4) The equitable distribution of the storage stocks monthly throughout the year, taken as a whole, and by individual dealers, taking the condition of the fruit and the varieties into account, in order to eliminate speculation of an undesirable character. This should be done in co-operation with the Bureau of Markets and the Food Administration.

(5) The direct sale by the wholesale dealer to the jobber or retailer and by the jobber to the retail trade or by the auction method to the jobbing or retail trade and the elimination of trading in storage stocks between dealers of the same class, except for actual trade requirements, i. e., the reduction of the number of transfers between the producer and consumer to the smallest possible number.

(6) The handling of apples on reasonable margins by the wholesale and retail trade in order that excessive margins may not lessen consumption and restrict the markets; the margin of the wholesale and retail trade to parallel their purchase price, including a fair and not excessive profit.

(7) A definite, well directed campaign in co-operation with other trade organizations and with the Food Administration to establish fruit and vegetable departments in the grocery and special food stores throughout the country, as a means of wider distribution. Make the campaign a definite business-getting one on the basis of new opportunities. From the retail standpoint the opportunities are exceptional because the loss in the sale of dry groceries can only be met by pushing the sale of perishables. The consumer is asking what to buy in

Do You Want to Sell for Spot Cash— F. O. B. Loading Station?

Did it ever occur to you that the Cash Buyer's salary and expenses come out of you? Well, they do—you will (as a rule) get a lower price than if you were to keep in touch with the markets and sell direct to reliable dealers in the **highest market**.

Ever figure it out? Well, you can generally get anywhere from 10 to 25 cents a box more by selling direct. Watch the market, and judge for yourself. **Sell by wire.**

10 cents more per box on a minimum car of 630 boxes would give you \$63.00 more per car profit—on 10 cars \$630.00—on 20 cars \$1,260.00, and so on.

In this year of unusually high prices, don't make the mistake of being satisfied with what may look like a high price to you —**GET THE LAST CENT POSSIBLE OUT OF YOUR SHIPMENTS!**

Afraid to ship direct? Why? Because you may get into the hands of a Receiver who is a "kicker," "rejector," or "rebater."

Don't let that bother you any more! Get the **BLUE BOOK** and see who they are! There are plenty of reliable Commission Merchants and Jobbers who will be glad to purchase by wire, or **send their buyer if you prefer**, but you can't expect them to pay as much when they do so.

Want to know just how the **BLUE BOOK** will enable you to make this additional profit? Write

Produce Reporter Company CHICAGO

Pittsburgh Perfect Cement Coated Nails are of the highest standard

The Heads don't come off. Given Preference by Largest Pacific Coast Packers

MANUFACTURED EXCLUSIVELY BY

PITTSBURGH STEEL COMPANY, Pittsburgh, Pa.

A. C. RULOFSON COMPANY, Pacific Coast Agents
359 Monadnock Building, San Francisco, California

Power Drag Saw does the Work of 10 Men



WEIGHT
285 lbs.

Price
Complete 145.⁰⁰

One man can move machine from cut to cut on log. Two men can carry it. Cuts through 3½ foot log in three minutes. Approximately 25 cords a day. 4 H. P. gasoline engine warranted. Steel wheel cart \$10.00 Send for catalogue. MANUFACTURED BY

REIERSON MACHINERY CO.

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☆ DU PONT AMERICAN INDUSTRIES ☆



America Must Feed the World

Europe is hungry. Ground, once farms, is now a raging battlefield. Women and children are starving. Millions of mouths cry out for food.

The loss of each food ship is a tragedy. But the idle acres of America could grow more food per year than all of the enemy's ships can destroy.

Every Idle Acre Helps the Enemy

Hinder rations and you hinder victory. Other ships and more food must take the place of those destroyed.

Clear—Plow—Plant

Remove the stumps and boulders—drain the swampy places. Cultivate every available acre of land. Bumper crops are essential. Don't let labor shortage hinder you.

 **and Repauno**
Stumping Powders

will help one man do the work of many men—cheaper—better—quicker.

GET OUR BIG BOOK FREE

Learn the secret of easy clearing and drainage—the quick way—the labor saving way. Let bigger, better, heavier crops be your slogan.

Write now for your copy of

Developing Logged-Off Lands

E. I. DU PONT DE NEMOURS & COMPANY
SEATTLE, WASH. SAN FRANCISCO, CAL.

order to escape high prices and to be patriotic. The answer is to buy perishables, thereby liberating the exportable foods for the Allies. Every wholesaler should be a promoter and every salesman a missionary to help the pacemakers among the retailers establish green fruit and vegetable departments, to make attractive, clean displays; to make quick sales at low margins per sale and in keeping before the consumer the opportunity to purchase foods that are healthful and delicious and reasonable in price, and that are desirable substitutes for more concentrated exportable foods. In such a campaign it should be remembered that the consumer holds the key to its success. His interest must be aroused, his appetite appealed to, and his desire to buy stimulated in every way, without this interest in the consumer,

the efforts of the trade are doomed to failure. With his sympathy enlisted, there is no limit to the present opportunity of extending the perishable food industries.

(8) The presentation and discussion in advance with the Food Administration of problems and practices in handling perishables that need clarifying in the minds of the trade, on account of the food control law.

In order to develop the problems of the perishable food industries, the Food Administration will have associated with it members of the different industries who will assist in handling the national food problems. They will form a vital link between the Food Administration and the industries. Through the active co-operation of the industries and the Food Administration, we are confident that

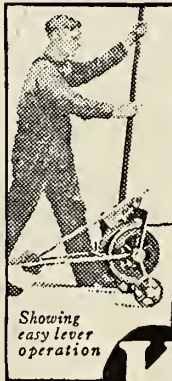
the problems before us will be mutually solved and that the broad powers of regulation and control conferred on the Administration will have to be used only against a few recalcitrant individuals who are a discredit and detriment to the industries in which they are engaged.

Increasing Apple Consumption.

Mr. Herbert Hoover requested the fruit industry to co-operate with him for the purpose of increasing consumption of fruit and vegetables and in this way conserving the non-perishable products when the perishables are out of the way for our use and for the benefit of our allies. The International Apple Shippers' Association have appointed Mr. D. C. Hearty, president, who will have headquarters at Washington, acting in connection with Mr. Hoover.

Mr. C. W. Carter, of Berger & Carter, San Francisco, doing a large business on the Pacific Coast with canneries, evaporators and vinegar factories, has gone to the Orient for the purpose of studying export conditions, to be gone six months.

Make more Money Pull big stumps by hand



Clear your stump land cheaply—no digging, no expense for teams and powder. One man with a K can rip out any stump that can be pulled with the best inch steel cable.

Works by leverage—same principle as a jack. 100 pound pull on the lever gives a 48-ton pull on the stump. Made of the finest steel—guaranteed against breakage. Endorsed by U. S. Government experts.

K HAND POWER Stump Puller

Write today for special offer and free booklet on Land Clearing.

Walter J. Fitzpatrick
Box 31
182 Fifth Street
San Francisco
California

Plant Walnut Trees

Walnut Trees planted 40 feet apart use only a small part of the ground for the first few years. Cultivated crops, such as corn, beans and potatoes, grown between walnut trees will produce more food and income than grain grown on the whole ground. Our **GRAFTED FRANQUETTES** ARE THE BEST GROWN.

Wholesale and Retail
GRONER & McCLURE
HILLSBORO, OREGON

United States Food Administration—Home Card

By Herbert Hoover, U. S. Food Administrator.

Save the Wheat.—One wheatless meal a day. Use corn, oatmeal, rye or barley bread and non-wheat breakfast foods. Order bread twenty-four hours in advance so your baker will not bake beyond his needs. Cut the loaf on the table and only as required. Use stale bread for cooking, toast, etc. Eat less cake and pastry. Our wheat harvest is far below normal. If each person weekly saves one pound of wheat flour that means 150,000,000 more bushels of wheat for the Allies to mix in their bread. This will help them to save DEMOCRACY.

Save the Meat.—Beef, mutton or pork not more than once daily. Use freely vegetables and fish. At the meat meal serve smaller portions, and stews instead of steaks. Make made-dishes of all left-overs. Do this and there will be meat enough for everyone at a reasonable price. We are today killing the dairy cows and female calves as the result of high price. Therefore, eat less and eat no young meat. If we save an ounce of meat each day per person, we will have additional supply equal to 2,200,000 cattle.

Save the Milk.—The children must have milk. Use every drop. Use buttermilk and sour milk for cooking and making cottage cheese. Use less cream.

Save the Fats.—We are the world's greatest fat wasters. Fat is food. Butter is essential for the growth and health of children. Use butter on the table as usual but not in cooking. Other fats are as good. Reduce use of fried foods. Save daily one-third ounce animal fats. Soap contains fats. Do not waste it. Make your own washing soap at home out of the saved fats. Use one-third ounce less per day of animal fat and 375,000 tons will be saved yearly.

Save the Sugar.—Sugar is scarcer. We use today three times as much per person as our Allies. So there may be enough for all at reasonable price use less candy and sweet drinks. Do not stint sugar in putting up fruit and jams. They will save butter. If everyone in America saves one ounce of sugar daily it means 1,100,000 tons for the year.

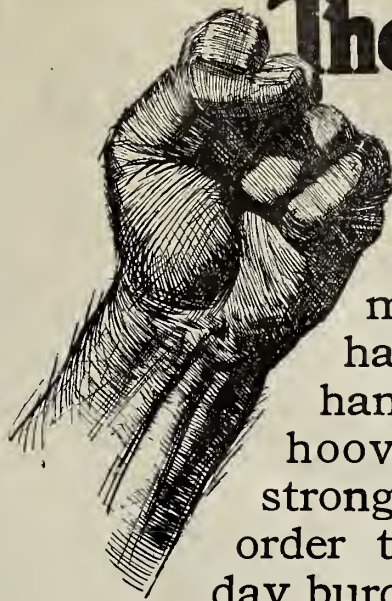
Save the Fuel.—Coal comes from a distance and our railways are overburdened hauling war material. Help relieve them by burning fewer fires. Use wood when you can get it.

Use the Perishable Foods.—Fruits and vegetables we have in abundance. As a nation we eat too little green stuffs. Double their use and improve your health. Store potatoes and other roots properly and they will keep. Begin now to can or dry all surplus garden products.

Use Local Supplies.—Patronize your local producer. Distance means money. Buy perishable food from the neighborhood nearest you and thus save transportation.

General Rules.—Buy less, serve smaller portions. Preach the "Gospel of the Clean Plate." Don't eat a fourth

The Nation's Strength



is not only in the mailed fist but in the hand of industry—the hand of health. It behooves all of us to be strong and keep strong, in order to carry the present day burden.

As a strength-giving food product Ghirardelli's Ground Chocolate is an ideal blend of foods—cocoa and pure sugar, each full of elements that supply energy and build up worn tissues.

A tablespoonful of Ghirardelli's Ground Chocolate, 1c. worth, makes not only a delicious but an unusually nutritious beverage. Drink daily a cup of

Ghirardelli's Ground Chocolate

Comes in ½-lb., 1-lb. and 3-lb. Cans.

D. GHIRARDELLI COMPANY
Since 1852 San Francisco



Red Crown is not a mixture. It has a continuous chain of boiling points.

Standard Oil Company
(California)



The Gasoline of Quality

not a mixture

Ridley, Houlding & Co.

COVENT GARDEN, LONDON

Points to remember when consigning
apples to the London Market

1.—We Specialize in Apples

2.—All Consignments Receive our
Personal Attention

3.—The Fruit is Sold by
Private Treaty

CABLE ADDRESS: BOTANIZING, LONDON

LESLIE BUTLER, President
TRUMAN BUTLER, Vice President
C. H. VAUGHAN, Cashier

Established 1900

Butler Banking Company

HOOD RIVER, OREGON

Capital . . . \$100,000.00

4% Interest Paid in our Savings Department

WE GIVE SPECIAL ATTENTION TO GOOD FARM LOANS

If you have money to loan we will find you good real estate security, or if you want to borrow we can place your application in good hands, and we make no charge for this service.

THE OLDEST BANK IN HOOD RIVER VALLEY

F. W. BALTES AND COMPANY

Printers · Binders



Unexcelled facilities for the production of Catalogues, Booklets, Stationery, Posters and Advertising Matter. Write us for prices and specifications. Out-of-town orders executed promptly and accurately. We print BETTER FRUIT.

CORNER FIRST AND OAK STREETS
PORTLAND, OREGON

meal. Don't limit the plain food of growing children. Watch out for the wastes in the community. Full garbage pails in America mean empty dinner pails in America and Europe. If the more fortunate of our people will avoid waste and eat no more than they need, the high cost of living problem of the less fortunate will be solved.

Heavier Car Loading

The problem of car efficiency is right now engaging the attention of all railroad men. With the co-operation of shippers much can be done to improve the situation and secure better use of present equipment.

Bulletin No. 12, issued by the Special Committee on National Defense of the American Railway Association, points out that increased car efficiency can be secured by: (a) Quicker terminal handling, and prompter loading and unloading. (b) Better loading—more tons per car.

R. J. Claney, assistant to General Manager W. R. Scott, points out that the present problem is not so much a shortage of cars as of loading and unloading promptly and fully. He says: "There are about 2,575,000 freight cars in this country. Of these 167,000, or 6.5 per cent, are normally under repairs. Close watching and prompt repair work can reduce this number and release thousands of cars for active service. Figures for the fiscal year of 1916 make the situation as to the cause of congestion very clear: The aggregate volume of traffic was about 2,093,225,000 tons. The average permissible car capacity was 45.1 tons, and the actual average earload per loaded car was 22 tons. At the same time the average loaded cars per train amounted to 25 and the average haul 162.37. As actually loaded the movement of this traffic took 95,146,591 cars, 3,805,864 trains, and 617,958,137 train miles. Had cars been loaded to their full allowed capacity the same traffic would have needed but 46,412,971 cars, 1,856,515 trains and 301,442,340 train miles. In other words, loading to such capacity would have reduced the number of cars by 48,733,620, the number of trains by 1,949,349, and the number of train miles by 316,515,797."

Delays, whether in loading, unloading or for other reasons, also mean less cars moving. There are something like 250,000 or 300,000 points where freight is received and delivered. A slight detention at each of these, in the long run, means a great deal of time lost. To the extent that cars are tied up and not in motion carrying goods the service to the shipper is impaired. Freight cars are built to transport shipments from place to place. When they are stationary they are useless as vehicles. Railroad men should impress on shippers that it is their business that is ultimately affected by carelessness in releasing cars. It is, to be sure, the railroad's interest, too, to use its cars efficiently.

Our Specialties

We handle more box apples than any concern in Ohio and want to hear from every grower and shipper who will have either large or small lots to offer.

BOX APPLES

AND THE THREE BIG

Peaches, Pears, Prunes

LET US HEAR FROM YOU AT ONCE

I. N. PRICE & CO., Cincinnati, Ohio

REFERENCES: ANY BANK OR CREDIT AGENCY

Pacific Coast Agents
**United States Steel
Products Co.**

San Francisco
Los Angeles
Portland
Seattle



J.C. Pearson Co., Inc.
Sole Manufacturers

Old South Bldg.
Boston, Mass.

PEARSON

ECONOMY in buying is getting the best value for the money, not always in getting the lowest prices. PEARSON prices are right.

ADHESIVENESS or holding power is the reason for PEARSON nails. For twenty years they have been making boxes strong. Now, more than ever.

RELIABILITY behind the goods is added value. You can rely on our record of fulfillment of every contract and fair adjustment of every claim.

SATISFACTION is assured by our long experience in making nails to suit our customers' needs. We know what you want; we guarantee satisfaction.

ORIGINALITY plus experience always excels imitation. Imitation's highest hope is, to sometime (not now) equal Pearson—meantime you play safe.

NAILS

Richey & Gilbert Co.

H. M. GILBERT, President and Manager

Growers and Shippers of

Yakima Valley Fruits and Produce

SPECIALTIES:

Apples, Peaches, Pears and Cantaloupes

TOPPENISH, WASHINGTON

The First National Bank

HOOD RIVER, OREGON

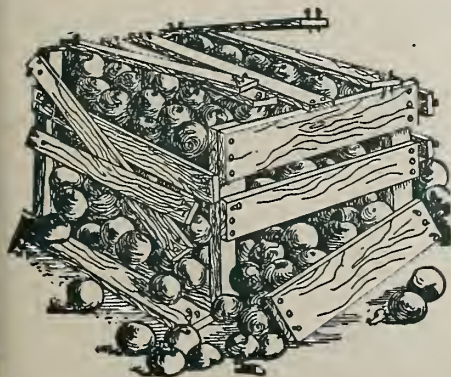
A. D. MOE - - President

E. O. BLANCHARD - Cashier

Capital and Surplus \$125,000

Assets Over \$500,000

Member Federal Reserve System



BEFORE using Cement Coated Nails

Western Cement Coated Nails for Western Growers

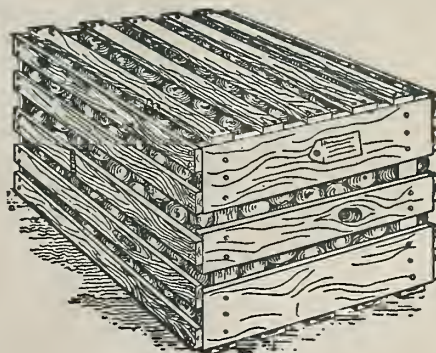
Our Cement Coated Nails are always of uniform length, gauge, head and count. Especially adapted to the manufacture of fruit boxes and crates. In brief, they are the Best on the Market.

Write for Growers' testimonials.

Colorado Fuel & Iron Co.

DENVER, COLORADO

Pacific Coast Sales Offices
Portland, Spokane, San Francisco
Los Angeles



AFTER use of C. F. & I. Co.'s
Cement Coated Nails

THE WORLD-
OUR ORCHARD

STEINHARDT & KELLY NEW YORK

UNQUESTIONABLY THE
MOST IMPORTANT FACTOR
IN THE DISTRIBUTION OF
THE COUNTRY'S FANCY
APPLES
AND OTHER FRUITS

OUR MARKET-
THE WORLD